Shoreline Management
Draft Management Plan MOA and Guidance Document for Localities
Virginia Institute of Marine Science
Shoreline Studies Program
FY '08 Task 94.04
December, 2009

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Meeting Summary
Memorandum of Understanding for Shoreline Management Plans
12 March 2009

Participants included personnel from the Department of Environmental Quality, Virginia Marine Resources Commission, Eastern Shore Resource Conservation and Development, and Virginia Institute of Marine Science. The Department of Conservation and Recreation's representatives included the Chesapeake Bay Local Assistance Program and the Shoreline Erosion Advisory Service,

Scott Hardaway, VIMS Shoreline Studies presentation

- The key to effective shoreline management is developing methods that everyone can agree on. We are basically recommending "Living Shoreline" treatments for eroding shorelines.
- Once the base of the eroding bank is stabilized, the bank may regrade naturally. In low fetch conditions, shore protection doesn't have to include a storm surge of Hurricane Isabel's size because you won't get much wave action, just high water.
- At what fetch distance is simply trimming trees to enhance the marsh effective? That depends on the bank face, bank height, and canopy type. Something less than 500 feet of fetch appears reasonable.
- The shoreline management plan is an educational tool. Education for the landowners encourages people to evaluate other options rather than just accept that a bulkhead will work.
- Water depth can be consideration for sills Too deep of a nearshore (> 3 ft), might make that option too expensive because in order to attain a certain sill height more rock and sand is required.
- Sill systems have three components; rock, sand and plants. The sill has a certain dimensionality depending on site conditions and desired level of protection and will necessitate landward/riparian considerations vs channelward/state-owned bottom considerations.
- One option is to start with maximum ecosystem services. i.e. if you are going to be allowed to protect private property, you can create habitat.
- Is it appropriate for "private property" owners to use state-owned bottoms to install sills? It appears that it is but only enough to attain the desired level of protection.
- The recommendations in the shoreline management plan are based on landuse and existing conditions. The task is getting landowners to understand that marshes are effective erosion control.

Participant Discussion

The Shoreline Management Plan concept is good since it advocates the creation of wetlands and addresses riparian issues. It would be appropriate to use state-owned bottom if ecologically appropriate.

Habitat "exchange" from one to the other is ok if the ecosystem improves from one to the other basis on best information from VIMS or DCR (SEAS).

There is a positive public interest. VMRC has a public trust to use state-owned bottom. Other permitted uses include SAV and oysters

If a sill structure is designed appropriately, the habitat/ecosystem will be improved. However, if a bulkhead is built, generally-speaking, the fringe wetlands will disappear. When bulkheads are built behind the marsh (out of jurisdiction), they don't protect the marsh over the long-term.

Sills are more adaptable to sea-level rise, especially with bank grading which would allow the created marsh to transgress the upland slope.

Is covering existing marsh ok? In sparse areas, the habitat exchange and ecosystem benefits may make it ok.

A shoreline management plan answers questions about what's appropriate. The only thing left is site specific design.

Why develop an MOU? This would be a pilot program for the general concept of shore management planning. It is a way to determine if the concept is generally accepted and get issues on the table.

What would the MOU say? It is appropriate to use the plan as guidance for permit applications.

There are different levels of the MOU. It can go from just agreeing with the concept to a combined permit/regulatory change.

The local "buy-in" would be to include the plan in the shoreline component of their comprehensive plan.

Another suggestion is to have places in the JPA to put data from the plan. This shows that the plan has been used and that is why the project has been designed. Include in future plans a design element list for JPA.

How does that compare to someone willing to put engineer seal on it?

SEAS response to discussion
SEAS is already using the product. It is an excellent tool that has a lot of uses. It is an educational tool for homeowners, local and state government, developers, contractors, real estate community.

DCR likely would sign an MOU. However, beyond the Occohannock Creek plan, it may be an uphill battle considering who will pay for the plans and who promotes them.

CBLA

The concept is good. Doing studies and then basing the plan on it is appropriate. Creating living shorelines while minimizing upland impacts can be considered best available technical advice. It is not always bad to grade buffer and CBLA acknowledges there is a trade off. If a vegetated intertidal zone is created, you get more distance to water from the home which helps water quality.

Local perspective
If we go to Accomack and Northampton, property rights groups may destroy movement. She suggests leaving it as an educational document and agreeing at a state level without the local level. She suggests wording that indicates these are preferred methods, not telling the homeowners what they can and can't do.

VMRC suggests wording such as "use as a tool to support resource management decisions with existing guidance that already exists".

Ask local wetlands board how it can be useful

Overall, the consensus is that it seems like too much work for Occohannock Creek level. Maybe use the Mathews County plan instead.

DEQ
Funding may be available through the Coastal Program and possibly by working with other agencies such as the Northern VA PDC who are working on a climate change adaptation plan.

The Shoreline Studies Shoreline Management Planning should be used when experienced practical recommendations are sought by localities.

Draft Memorandum of Understanding Between:

Department of Environmental Quality (DEQ), Department of Conservation and Recreation (DCR), Virginia Institute of Marine Science (VIMS), Virginia Marine Resources Commission (VMRC), and U.S. Army Corps of Engineers (USACE)

To Support the Concept of Shoreline Management Plans

1. PARTIES TO THE UNDERSTANDING

This Memorandum of Understanding (MOU) is between the following entities: Department of Environmental Quality, Department of Conservation and Recreation, Virginia Institute of Marine Science, Virginia Marine Resources Commission, and U.S. Army Corps of Engineers

2. ENABLING AUTHORITY

3. CONTEXT

Erosion control throughout Tidewater Virginia has been characterized by inconsistent and isolated actions taken on a parcel-by-parcel basis primarily through interactions between waterfront property owners and agents, consultants, or contractors, not localities or managers. In this way, Virginia's shoreline management approach is typically response-structured and primarily involves review and permitting only after the project has been proposed by the owner. Therefore, natural resource managers generally are not provided opportunities to influence or educate waterfront property owners prior to a financial investment and the authority for decision makers to suggest alternative approaches that may be more beneficial to the property owner and the local environment is limited.

With approximately 85 percent of the Chesapeake Bay shoreline privately owned, a critical need exists to inform landowners of their options for controlling shoreline erosion. Improving awareness of the choices available for shore stabilization, considering cumulative consequences, and improving shoreline management planning are key to mitigating shore erosion on sheltered coasts in an environmentally-friendly way.

A Shoreline Management Plan (SMP) is a tool for evaluating, planning, and implementing appropriate management strategies for specific areas such as individual counties or watersheds. In many areas of the Virginia portion of Chesapeake Bay and its tidal tributaries, scientific data critical for making knowledgeable decisions is neither coordinated nor comprehensive. A SMP incorporates scientific data and analyses to assist waterfront property owners, agents, marine contractors, natural resource managers, and local land-use planners in their decision-making process. It provides typical cross-sections that can be used during the development of a project to promote the most reasonable and beneficial approach to shoreline stabilization making it proactive as opposed to the more common reactive process.

Effective stabilization of the shore combined with maintenance of habitat is the primary goal of a SMP. In the past, bulkheads and revetments were used to protect upland property and while they are generally successful, they can sever the land-water connection thereby reducing habitat and the ability of the shore to act as a buffer. However, over the past 30 years, more habitat-friendly, shore- management strategies have been successfully implemented around the Bay. These strategies create an environmental edge using marshes and beaches for shore stabilization and are commonly referred to as "Living Shorelines". Where applicable, strategies, such as living shorelines, that do not sever the connections between the bank (riparian), intertidal and subaqueous areas and that maintain natural processes such as tidal exchange, sediment movement, plant community transitions, and groundwater flow are recommended in the SMP.

Living shorelines stabilize the shore through long-term restoration or enhancement of vegetated shoreline habitats. A marsh fringe can be created by planting marsh grasses along the shore and by building stone sills to protect and stabilize them. On higher energy, open coasts, near shore breakwaters supplemented with beach fill can yield a sandy area of beach and dunes. These systems will, if properly designed and constructed, stabilize the shore as well as create a viable vegetated fringe that restores and/or sustains natural resources and provides a beneficial water-quality buffer.

4. PURPOSE AND TERMS OF UNDERSTANDING

One goal of a SMP is to bridge the permitting process. State agencies such as Department of Conservation and Recreation, the Virginia Marine Resources Commission, Virginia's Department of Environmental Quality have regulatory roles regarding the kind of shoreline strategies that ultimately will be permitted as does the U.S. Army Corps of Engineers. The Virginia Institute of Marine Science review permit applications for VMRC. DEQ's wetlands program, DCR's Chesapeake Bay Local Assistance Program (CBLA) and Shoreline Erosion Advisory Service (SEAS) make recommendations of shoreline management to private property owners. Having a SMP in place for a locality will help streamline the permitting process by assuring each of these agencies has the same information such as the site specific shore management strategy recommendations. The agencies will know that these recommendations are based on sound scientific information which is presented in the report and site visits to determine site-specific conditions that may impact recommendations.

Each of the signatory entities in the Memorandum of Understanding agrees in principle to the following statements.

The SMP is a tool to support resource management decisions within the existing guidance.

- SMPs, based on research and site visits, meet the definition of best available technical advice.
- Shore stabilization likely will require the exchange of an existing habitat for a new one (*i.e.* a sandy bottom replaced by a marsh; or a forested, eroding bank to a vegetated, graded bank). If the proposed shore management strategy will increase the ecosystem services and minimize the upland impacts, allowing modifications to the existing habitats can be in the public's interest.
- State agencies have a public trust to guard shore habitats. However, it can be appropriate

for private property owners to use state-owned bottom for shoreline stabilization if ecosystem services increase.

- A well-designed sill with marsh plantings or breakwater with beach fill will improve the habitat and ecosystem services along the shoreline.

5. MODIFICATIONS

Modifications to this Memorandum of Understanding must be submitted in writing and approved by all parties to the Memorandum of Understanding.

6. EFFECTIVE DATE

The effective date of the Memorandum of Understanding shall be the date of the signing of the Memorandum of Understanding by the parties to the agreement.

7. DURATION AND TERMINATION OF UNDERSTANDING

The duration of this Memorandum of Understanding will be until such time as it is terminated upon agreement of all parties; however, any party to the Memorandum of Understanding may terminate its participation by written notice to all other parties.

8. MANNER OF FINANCING

This Memorandum of Understanding will not require financing or budgeting from or by the signatory agencies; however, this clause will not preclude, under a separate document or agreement, grant funding or other financial assistance from one signatory to another for the purpose of carrying out the purposes of the Memorandum of Understanding.

9. OWNERSHIP OF PROPERTY

It is not the intent of the signatory parties that this Memorandum of Understanding will result in the purchase, ownership, holding or conveying of any real or personal property.

10. APPENDIX

A Guide to Shoreline Management Planning for Virginia's Coastal Localities, Milligan and Hardaway, 2009, VIMS.

LIST OF SIGNATORIES